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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,028	09/11/2003	David M. Pepper	B-4077 618504-4	6773
36716	7590	05/17/2007		
LADAS & PARRY 5670 WILSHIRE BOULEVARD, SUITE 2100 LOS ANGELES, CA 90036-5679			EXAMINER THOMAS, BRANDI N	
			ART UNIT 2873	PAPER NUMBER
			MAIL DATE 05/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/661,028	Applicant(s) PEPPER ET AL.	
	Examiner Brandi N. Thomas	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-7,9-11,22-26 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,9-11,22-26 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5-7, 9-11, 22-26, and 33-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Belikov et al. (2003/0231692).

Regarding claims 1, 22, 33, and 35, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus with modulation capability comprising: a retro-reflecting Fabry-Perot structure including a pair of reflective surfaces (510 and 520) (section 0052); and a micromechanical device (MEMS) for moving at least one of the reflective surfaces (520) of said pair of reflective surfaces (510 and 520) relative to another one of the reflective surfaces (510) of said pair of reflective surfaces (510 and 520) a distance which causes the pair of the reflective surfaces to switch between a reflective mode of operation and a transmissive mode of operation (section 0052).

Regarding claim 2, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus with modulation capability, wherein the retro-reflecting structure includes a corner cube arrangement with the pair of reflective surfaces (510 and 520) forming at least one angled reflecting surface of the corner cube arrangement and another reflecting surface forming another angled reflecting surface of the corner cube arrangement (section 0052).

Regarding claim 5, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus with modulation capability, wherein the micromechanical device is a MEM device made using photolithographic techniques (section 0052).

Regarding claims 6 and 34, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, the apparatus comprising: a retro-reflecting structure including a substrate (500) and a moveable grating structure (figure 5A and 5B) (section 0052); and a micromechanical device (MEMS) for moving the moveable grating structure (figure 5A and 5B) relative to the substrate (500) to cause the retro-reflecting structure to switch between a retro-reflective mode of operation and a non-retro-reflective mode of operation (section 0052), the micromechanical device being responsive to a signal to impart modulation to an optical beam which is retro-reflected from the retro-reflecting structure (section 0052).

Regarding claim 7, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the retro-reflecting structure includes a corner cube arrangement with said substrate (500) and moveable grating structure (figure 5A and 5B) forming at least a portion of one reflecting surface (510) of the corner cube arrangement and at least another reflecting surface (520) forming another reflecting surface of the corner cube arrangement (section 0052).

Regarding claim 9, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein said one reflecting surface (520) of said corner cube arrangement is pixelated by a plurality of moveable grating structures (section 0052).

Regarding claim 10, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the gratings of one moveable grating structure of said plurality of moveable grating structures is rotated about a central axis thereof related to neighboring moveable grating structures (section 0052) (see figure 5A above).

Regarding claim 11, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the at least another reflecting surface (520) has a moveable grating structure associated therewith which is responsive to said signal for imparting modulation to the optical beam that is retro-reflected from the retro-reflecting structure (section 0052).

Regarding claim 23, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the retro-reflecting structure includes at least a pair of reflective surfaces (510 and 520), at least one of said surfaces (520) including the at least one optical element which is moved less than a wavelength of the optical beam in order to modulate the retro-reflected beam (section 0052).

Regarding claim 24, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the pair of reflective surfaces (510 and 520) are arranged in either a cat's eye or a corner cube configuration (section 0052).

Regarding claim 25, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the retro-reflecting structure includes a substrate (500) and a grating structure (figure 5A and 5B), at least one of said substrate (500) and said grating structure (figure 5A and 5B) comprising the at least one optical

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element (520) which is moved less than a wavelength of the optical beam in order to modulate the retro-reflected beam (section 0052).

Regarding claim 26, Belikov et al. discloses, in figures 5A and 5B, an optical retro-reflective apparatus for modulating an optical beam, wherein the substrate (500) and grating structure (figure 5A and 5B) are arranged in either a cat's eye or a corner cube configuration (section 0052).

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 5-7, 9-11, 22-26, and 33-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandi N. Thomas whose telephone number is 571-272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brandi N Thomas
Examiner
Art Unit 2873


BNT


ALICIA M. HARRINGTON
PRIMARY EXAMINER